

AMENDMENTSIn the Claims:

Please cancel claims 18, 20, 23, and 25 without prejudice, and amend claims 17, 21, and 26-29, and add new claims 32 and 33 as set forth below. In compliance with the Revised Amendment practice, changes in the amended claims are shown by underlining (for added matter) and strikethrough (for deleted matter). All the pending claims are reproduced below.

Claims 1-16. (canceled)

17. (currently amended) A valve adapted to control a flow of abrasive particles suspended in a pressurized carrier liquid, the valve comprising:

at least two apertured valve seat means;
each said seat means having a contact face in contact with a corresponding opposing contact face of another said apertured valve seat means and being translationally slideable in contact therewith and with respect thereto between a first position in which the apertures of each valve seat means are aligned so that said pressurized carrier liquid is passable through said apertures, and a second position wherein the aperture in one valve seat means is blocked by the contact face on another to stop flow through the valve;

an elongate tubular strut means bearing at a first end thereof on a first of said valve seat means;

said valve seat means being urged sealingly together by the pressure of the carrier liquid exerted on a second end of the strut means remote from the first and transmitted generally longitudinally of the strut means to said first one valve seat means;

the flow of abrasive particles and carrier liquid being passed to the valve seat means through said tubular strut means; and

each said valve seat means comprising a material with a hardness, as measured on the Mohs scale, of at least 9.

18. (canceled)

19. (previously presented) A valve of claim 17 wherein the at least two apertured valve seat means comprise two valve seat means, one being translationally slideable in contact with the other and with respect thereto.

20. (canceled)

21. (currently amended) A valve of claim 17 wherein each of the valve seat means comprises ~~diamonds~~ diamond.

22. (previously presented) A valve of claim 17 wherein at least one of the valve seat means comprises a composite diamond/ceramic material.

23. (canceled)

24. (previously presented) A valve of claim 17 further comprising slide means to which one of the valve seat means is mounted, said slide means being adapted to be moveable translationally by external actuating means, thereby causing said one valve seat means to move between said first and said second positions.

25. (canceled)

26. (currently amended) ~~A valve of claim 17 further comprising An assembly comprising:~~

a valve adapted to control a flow of abrasive particles suspended in a pressurized carrier liquid, the valve comprising:

at least two apertured valve seat means;

each said seat means having a contact face in contact with a corresponding opposing contact face of another said apertured valve seat means and being translationally slideable in contact therewith and with respect thereto between a first position in which the apertures of each valve seat means are aligned so that said pressurized carrier liquid is passable through said apertures, and a second position wherein the aperture in one valve seat means is blocked by the contact face on another to stop flow through the valve;

an elongate tubular strut means bearing at a first end thereof on a first of said valve seat means;

said valve seat means being urged sealingly together by the pressure of the carrier liquid exerted on a second end of the strut means remote from the first and transmitted generally longitudinally of the strut means to said first valve seat means;

the flow of abrasive particles and carrier liquid being passed to the valve seat means through said tubular strut means;

and each said valve seat means comprising a material with a hardness, as measured on the Mohs scale,
of at least 9; and

a container assembly adapted to contact contain a supply of abrasive particles for use in an abrasive liquid jet machining apparatus, said assembly comprising a container for said abrasive particles closeable sealably by means of a cap, said cap comprising an inlet means connected to a riser tube within said container, each of such restricted bore as substantially to prevent liquid flow therethrough, except under an imposed pressure differential, and an outlet means, the bore of which comprises such a restriction as substantially to prevent flow therethrough, except under an imposed pressure differential.

27. (currently amended) ~~A valve~~ An assembly of claim 26 wherein the container contains a supply of abrasive particles suspended in a carrier liquid.

28. (currently amended) ~~A valve~~ An assembly of claim 27 wherein the carrier liquid is water, and said abrasive particles comprise particles selected from the group including garnet, olivine and aluminum oxide.

29. (currently amended) An apparatus for machining a workpiece, comprising pressurizing means, a storage vessel for a supply of abrasive particles, a nozzle, and a valve ~~of claim 17 adapted to control a flow of abrasive particles suspended in a pressurized carrier liquid, the valve comprising at least two apertured valve seat means, each said seat means having a contact face in contact with a corresponding opposing contact face of another said apertured valve seat means and being translationally slideable in contact therewith and with respect thereto between a first position in which the apertures of each valve seat means are aligned so that said pressurized carrier liquid is passable through said apertures, and a second position wherein the aperture in one valve seat means is blocked by the contact face on another to stop flow through the valve, and elongate tubular strut means bearing at a first end thereof on a first of said valve seat means, said valve seat means being urged sealingly together by the pressure of the carrier liquid exerted on a second end of the strut means remote from the first and transmitted generally longitudinally of the strut means to said first valve seat means, the flow of abrasive particles and carrier liquid being passed to the valve seat means through said tubular strut means, and each said valve seat means comprising a material with a hardness, as measured on the Mohs scale, of at least 9, and said valve being located adjacently upstream of the nozzle, adapted to interrupt flow through the nozzle.~~

30. (previously presented) An apparatus of claim 29 wherein the pressurizing means further comprises means momentarily to increase the pressure at a point between the nozzle and the storage vessel to a level exceeding that present in the storage vessel to interrupt flow therefrom prior to actuation of the valve to interrupt flow through the nozzle.

31. (previously presented) An apparatus of claim 30 comprising valve means openable to cause an increased proportion of the liquid to flow from the pressurizing means directly to the point.

32. (new) An apparatus for machining a workpiece, comprising pressurizing means, a storage vessel for a supply of abrasive particles, a nozzle, and a valve adjacently upstream of the nozzle, adapted to interrupt flow through the nozzle, said pressurizing means comprising means momentarily to increase the pressure at a point between the nozzle and the storage vessel to a level exceeding that present in the storage vessel to interrupt flow therefrom prior to actuation of the valve to interrupt flow through the nozzle, and said valve comprising:

at least two apertured valve seat means;

each said seat means having a contact face in contact with a corresponding opposing contact face of another said apertured valve seat means and being translationally slideable in contact therewith and with respect thereto between a first position in which the apertures of each valve seat means are aligned so that said pressurized carrier liquid is passable through said apertures, and a second position wherein the aperture in one valve seat means is blocked by the contact face on another to stop flow through the valve;

said valve seat means being urged sealingly together by the pressure of the carrier liquid exerted on one valve seat means; and

each said valve seat means comprising a material with a hardness, as measured on the Mohs scale, of at least 9.

33. (new) An apparatus of claim 32 comprising valve means openable to cause an increased proportion of the liquid to flow from the pressurizing means directly to the point.

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